



SAFETY DATA SHEET

Effective Date: April 2020

ITEM: Commercial Vessel Distress Signal Kit
(50+ miles from shore)

PART # 826

UPC 077403528264

CONTENTS

SOLAS Red Parachute Flare SDS
SOLAS Red Handheld Red Flare (Pyro Pol SDS)
SOLAS Floating Smoke Signal (Pyro Pol SDS)

SHIPPING INFORMATION

UN0403, Flares, Aerial 1.4G (ERG 114)
EX2000090117



Div: EVANinc



RED ROCKET PM4
Safety Data Sheet
Date of Issue : 24/07/2017
Version : 1.0

SECTION 1 : identification of the product and of the company

1.1. Product identifier

Product name : RED ROCKET PM4
Synonyms : N/A
Product code : 52162 / 52262 / 800 / 805 / 4250

1.2. Relevant identified uses of the product and uses advised against

Use of the product : Rocket parachute red flare. Visual signal for ships, lifeboats and liferafts.
Use advised against : n/a

1.3. Details of the supplier/importer of the product

Supplier :	Orion Safety Products	Importer / Assembler	CIL/Explosives
	28320 St. Michaels Rd		533 Argenteuil
	Easton, MD		Lachute, QC
	21601		J8H 3Y2
	Tel : 800-637-7807		Tel : 450-566-0655
	Fax : 410-822-7759		Fax : 450-566-0677
	email:customerservice@orionsignals.com		email:reception@cilexplosives.com
	www.orionsignals.com		www.cilexplosives.com

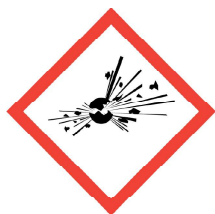
1.4. Emergency telephone number

Emergency number : Canutec : 1-613-996-6666

SECTION 2 : Hazards identification

2.1. Classification of the product

Explosives Category 1.4 H203



Hazard pictograms :

Signal word :

Hazard statements :

Precautionary statements :

Danger

H203

Explosive: fire, blast or projection hazard

P210

Keep away from heat/sparks/open flames/hot

P250

Do not subject to grinding/shock/friction

P280

Wear protective gloves/protective clothing/eye protection/face protection

P370&P380

In case of fire: Evacuate area

P372

Explosion risk in case of fire

P373

DO NOT fight fire when fire reaches explosives

P401

Store in a dry place and not over 65 degrees Celsius

P501

Dispose of contents/container as hazardous waste

Other hazards not contributing to the classification :

Burn hazard if not used conforming to the product instruction
Do not use damaged products
Keep out the reach of children
Do not point (and fire) product at people or properties
Do not ignite in confined spaces. Product is designed for outdoor use only.

SECTION 3 : Composition/information on ingredients

Chemical Characteristics: Oxidizer and fuel mixture

Description: Pressed pyrotechnical powder

Active mass: 135 gr

Product total weight: 370 gr

Component	CAS #	EINCS #	%AGE
Lighter Composition			
Strontium nitrate	10042-76-9	233-131-9	10%
Magnesium	7439-95-4	231-104-6	8%
PVC - Solvin	9002-86-2	236-948-9	2.5%
Potassium Perchlorate	7778-74-7	231-912-9	2.5%
Linseed oil	8001-26-1	232-278-6	0.2%

Component	CAS #	EINCS #	%AGE
Motor Composition			
Potassium Perchlorate	7778-74-7	231-612-9	7%
Phenol formaldehyde resin	9003-35-4	500-005-2	4%
Phenol	108-95-2	203-632-7	residuals

Note : Due to Confidential Business Information i.e "Trade Secrets", the exact percentage of each ingredient has not been disclosed. CBI information will be shared with appropriate authorities if circumstances warrant.

SECTION 4 : First aid measures

4.1. Description of first aid measures

It regards the substances inside the product only. In case of:

First-aid measures after inhalation :	If the injured inhales combustion gases, bring him to open air and eventually a physician
First-aid measures after skin contact :	Flush with water
First-aid measures after eye contact :	Wash immediately with abundant water and consult a physician
First-aid measures after ingestion :	Cause vomiting with warm salt water. If the injured is seriously harmed seek medical help.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms and effect :	See section 2 labeling and section 11
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4.3. Indication of any immediate medical attention and special treatment needed

Not defined

SECTION 5 : Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media :	DO NOT TRY TO EXTINGUISH THE FIRE AND STAY AT SAFE DISTANCE. For secondary fires use chemical extinguisher or sand.
Unsuitable extinguishing media :	Do not use water.

5.2. Special hazards arising from the chemical

Fire hazard :	Do not keep the product at temperature over 65 degrees Celsius. Bring product out of flames.
Explosion hazard :	High emission of fumes and light. Protect respiratory organs. if fire burns many products, protect eyes from ultraviolet emissions.
Reactivity :	N/A

5.3. Advice for firefighters

Firefighting instructions :	DO NOT TRY TO EXTINGUISH THE FIRE AND STAY SAFETY DISTANCE.
Protection during firefighting :	High emission of fumes and light. Protect respiratory organs. If the fire burns many products, protect the eyes from ultraviolet emissions.

SECTION 6 : Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Protective equipment :	N/A
Emergency procedures :	N/A

6.2. Environmental precautions

N/A

6.3. Methods and material for containment and cleaning up

For containment :	N/A
Methods for cleaning up :	In case of breaking of the packaging and discharge of mixture, broom, pick it by dustpan (if possible plastic) and put the material in a plastic container. Keep out of flames & sparks. Call immediately police or firemen in case of large spillage.

SECTION 7 : Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling :	Operating instructions are printed on the tube (product) Protect from exposure to impacts, friction, heat, fire, spark, electrostatic charges and other ignition sources. Do not use damaged products Do not use in close places, outdoor use only. Do not point (and fire) the product at people or properties.
Hygiene measures :	Wash thoroughly after handling

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions :	Store in a dry and airy place at temperature between - 30 degrees Celsius and 65 degrees Celsius.
Incompatible products :	Store with goods of the same danger class.
Incompatible materials :	Store only with non-dangerous materials
Storage temperature :	Between - 30 degrees Celsius and 65 degrees Celsius
Heat and ignition sources :	Keep away from ignition and heat sources.
Prohibitions on mixed storage :	N/A

Storage area :	Store in a dry and airy place at temperature between - 30 degrees Celsius and 65 degrees Celsius. Store according to the local regulations regarding the storage of explosive materials.
Special rules on packaging :	Keep the package off the ground to avoid moisture absorption.
Packaging materials :	Cardboard box

SECTION 8 : Exposure controls/personal protection

8.1. Control parameters

None set

8.2. Exposure controls

If substances come out from a damage or defective product use the precautions reported below.

Appropriate engineering controls :	No heat sources or ignition
Hand Protection :	Handle the material accidentally leaked wearing rubber or PVC gloves.
Eye protection :	Use protective glasses
Skin and body protection :	Avoid contact with skin and garments
Respiratory protection :	Do not inhale fumes or vapors sent forth in working. Use a mask with acid filters.
Other information :	Always check applicability with you supplier of protective equipment.

SECTION 9 : Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state :	N/A
Appearance :	External: yellow plastic tube with superior cap (yellow) and inferior screw cap (red). Internal: motor activated by a firing pin, illuminating flare (gray pyrotechnical composition pressed in a cardboard tube) bound to a nylon parachute.
Molecular mass :	Not applicable
Colour :	Not applicable
Odour :	None
Odour threshold :	None
PH :	Not applicable
Relative evaporation rate :	Not applicable
Melting point :	Not applicable
Freezing point :	Not applicable
Boiling point :	Not applicable

Flash point :	Not applicable
Critical temperature :	***ENTER TEMPERATURE HERE***
Self ignition temperature :	No data available
Decomposition temperature :	Not applicable
Flammability :	Not applicable
Vapour pressure :	Not applicable
Critical pressure :	Not applicable
Relative density :	Not applicable
Density :	No data available
Solubility :	Composition partially soluble (20 degrees Celsius in g/l)
Log Pow :	Not applicable
Log Kow :	Not applicable
Viscosity :	Not applicable
Explosive properties :	Not applicable
Oxidizing properties :	Not applicable
Explosive limits :	No data available
Auto ignition temperature :	Not applicable

SECTION 10 : Stability and reactivity

10.1 Reactivity

When the product is used in the appropriate manner no danger exists and it is not necessary to take precautions.

10.2. Chemical stability

When the product is used in the appropriate manner no danger exists and it is not necessary to take precautions.

10.3. Possibility of hazardous reactions

When the product is used in the appropriate manner no danger exists and it is not necessary to take precautions.

10.4. Conditions to avoid

Temperature < - 30 degrees Celsius
 Temperature > 65 degrees Celsius
 Strong mechanical impacts and frictions
 Near potential sparks sources.

10.5. Incompatible materials

Avoid contact of the composition with organic materials and other fuels.

10.6. Hazardous decomposition products

During the reaction of the pyrotechnical components dangerous gases and particles are produced: NOX, CO, CO2, metal oxides and acid vapors.

SECTION 11 : Toxicological information

11.1. Information on toxicological effects

Ingredient	Oral LD50	Skin LD50	LC50
No Ingredient mentioned	N/A	N/A	N/A

Acute toxicity :	Breathing in the combustion gases (air limit 6 mg/m ³)
Skin corrosion/irritation :	After long exposure it may cause skin irritation
Serious eye damage/irritation :	No deleterious effects known
Respiratory or skin sensitisation :	After long exposure it may cause mucosa irritation
Germ cell mutagenicity :	No deleterious effects known
Carcinogenicity :	No deleterious effects known
Reproductive toxicity :	No deleterious effects known
Specific target organ toxicity (single exposure) :	No deleterious effects known
Specific target organ toxicity (repeated exposure) :	No deleterious effects known
Aspiration hazard :	No deleterious effects known
Potential adverse human health effect and symptoms :	No deleterious effects known
Symptoms/injuries after inhalation :	No deleterious effects known
Symptoms/injuries after skin contact :	No deleterious effects known
Symptoms/injuries after eye contact :	No deleterious effects known
Symptoms/injuries after ingestion :	No deleterious effects known
Symptoms/injuries after intravenous administration :	No deleterious effects known
Chronic symptoms :	No deleterious effects known

SECTION 12 : Ecological information

12.1. Toxicity

Aquatic Toxicity :	Not defined
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12.2. Persistence and degradability

The torch itself, without its package, may slowly decompose under the effect of atmospheric agents and release oxides and nitrates. The composition inside the product is partially water soluble.

12.3. Bioaccumulative potential

Not defined

12.4. Mobility in environmental media

Avoid the product release in water (rivers, lakes, sea). It may slowly decompose and release metal oxides, nitrates and chlorine compounds easily absorbed by water and soil.

12.5. Other adverse effects

The combustion gases may contribute to the greenhouse effect if release in very high quantities.

SECTION 13 : Disposal considerations

13.1.. Disposal methods

Disposal should be carried out in accordance with health, safety, waste, environmental, storage/manufacture of explosives regulations.

Recyclability: Non-contaminated packages may be recycled

Expired products: Depending on local regulations, not conforming, damaged or expired products could be destroyed by combustion by specialized authorities with appropriate appropriate tools in an appropriate area.

SECTION 14 : Transport information

14.1.. UN number

UN number : 0403

14.2.. UN proper shipping name

UN proper shipping name : Flares, aerial

UN hazard class : 1.4G



UN DG Placard :

Packing group : II - Medium Danger

SECTION 15 : Regulatory information

Safety, health and environmental regulations /

Legislation specific for the substance or mixture: None specified

Chemical safety assessment: A chemical safety assessment has not been carried out on this mixture.

Other regulations: For handling, use, storage, transportation and disposal of this product follow the local, national and international rules and the regulations in forces.

SECTION 16 : Other information

Revision information : 24/07/2017

Referring to Section 3 of this Safety Data Sheet, R-phrases and H-statements for the inner composition components are clarified below:

R-Phrases

R8	Contact with combustible material may cause fire
R9	Explosive when mixed with combustible material
R11	Highly flammable
R15	Contact with water liberates extremely flammable gases
R22	Harmful if swallowed
R34	Causes severe burns
R43	May cause sensitisation by skin contact
R68	Possible risk of irreversible effects
R20/22	Harmful by inhalation and if swallowed
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R36/37/38	Irritating to eyes, respiratory system and skin
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

H-Statements

H201	Explosive; mass explosion hazard
H228	Flammable solid
H251	Self-heating: match catch fire
H261	In contact with water releases flammable gas
H271	May cause fire or explosion: strong oxidizer
H272	May intensify fire; oxidizer
H302/H312/H332	May be harmful if swallowed, in contact with skin and if inhaled
H301	Toxic if swallowed
H302	May be harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May Cause an allergic skin reaction
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
H373	May cause damage to organs through prolonged or repeated exposure

SECTION 16 : Other information (Continued)

The information reported in this Safety Data Sheet describes safety requirements that may not be valid if the product is used in combination with other products. The information is based on today knowledge of the product and its components. The company is not responsible for improper or incorrect use, different from what indicated on instruction.

SAFETY DATA SHEET

Based on Regulation (EC) No. 1907/2006 as amended



SDS PyroPol Handflare Red CF4

Issued: December 2018_Rev.00

SECTION 1: PRODUCT AND COMPANY INFORMATION

Product Name:

Handflare Red CF4, Art.-No.: 1393500

CIL/ORION Handflare Red CF4, Art.-No.: 1393510

Area of Usage:

Marine distress signal

Manufacturer:

Company name:

PyroPol GmbH

Company address:

Lippenhorstweg 29, 21514 Hornbek, Germany

E-Mail / Internet:

info@pyropol.de / www.pyropl.de

Telephone No.:

+49 – (0) 4158 – 89 00 73

Telefax No.:

+49 – (0) 4158 – 89 00 97

24 h Emergency Contact No.:

+49 – (0) 171 – 126 15 95

SECTION 2: HAZARDS IDENTIFICATION

Main health hazard:

Hazards refer to contents of flare

Inhalation:

May be mildly irritating to respiratory system

Skin contact:

May be mildly irritating to skin. Contact with flame or hot tube can cause severe burns.

Eye contact:

Irritating to eyes

Ingestion:

Harmful if swallowed

Fire and explosion hazards:

Risk of explosion by shock, fire, friction, or other sources of ignition

Environmental hazards:

Not classified as hazardous to the environment

CLP Classification	DPD Classification
Explosive division 1.4 – H204	Explosive – R2
Acute toxic category 4 – H302	Harmful – R22/36
Eye irritant category 2 – H319	

For full wording of hazard statements see Section 16

Label:

Danger Symbol:



Key Word:

Warning

WARNING: Contains Strontium Nitrate

Danger Advice Documents:

H204

Fire or projection hazard

H302

Harmful if swallowed

H319

Causes serious eye irritation

P102

Keep out of reach of children

P210

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P301 + P310

If swallowed: Immediately call a POISON CENTER or doctor/ physician

P309 + P311

If exposed or you feel unwell: call a POISON CENTER or a doctor/ physician

P370 + P380

During Fire, evacuate immediate area

P374

Fire fighting under normal precautions from a reasonable distance

P501

Dispose of contents / container to authorized waste disposal facility

Other hazards:

May be mildly irritating to skin and respiratory system.

Contact with flame or hot tube can cause severe burns.

SAFETY DATA SHEET

Based on Regulation (EC) No. 1907/2006 as amended



SDS PyroPol Handflare Red CF4

Issued: December 2018_Rev.00

SECTION 3: COMPONENT INFORMATION

Hazardous component(s):

Under CLP EC1272/2008

Substance	CAS No	REACH registration No	%	Mass (g)	CLP Hazard Category and H statements
Strontium nitrate	10042-76-9	01-1210007501-75	55% in illuminating mixture	30	Oxidizing solid Cat. 3 – H272 Acute toxic Cat. 4 – H302 Eye irritant Cat. 2 – H319

Also contains magnesium powder stabilized with polymerized linseed oil.

Under DPD EC1999/45

Substance	CAS number	EC number	%	Mass (g)	Symbol and Risk phrases
Strontium nitrate	10042-76-9	233-131-9	55% in illuminating mixture	30	O, Xn: R8/22/36

SECTION 4: FIRST AID MEASURES

General Advice:

Not defined

After Inhalation (Combustion Gases):

Having problems after inhaling move patient to fresh air, consult a physician

After Skin Contact:

Wash with plenty of water, consult a physician

After Contact with Eyes:

Wash with lots of water, contact a physician

After Swallowing:

Not possible to swallow product

Advice for doctors

Symptoms:

Not defined

Dangers:

Not defined

Actions to be taken:

Not defined

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

Use any extinguishing media at early stages of fire.

Once the product has ignited, it cannot be extinguished.

Not to be used:

No restriction

Special hazards arising from the substance or mixture:

Product is explosive, evolving large quantities of gases and emitting large quantities of heat radiation if involved in fire

Advice for fire fighters:

The usual protective gear in case of fire

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions:

Normal industrial hygiene. Use protective gloves.

Environmental Precautions:

Do not let waste reach drains, sewers and bodies of water, or leak into ground

Methods and material for containment and cleaning up:

Collect using non sparking tools, reuse if undamaged.

Otherwise, keep for disposal by experts.

Reference to other sections:

See Sections 8 and 13

SAFETY DATA SHEET

Based on Regulation (EC) No. 1907/2006 as amended



SDS PyroPol Handflare Red CF4

Issued: December 2018_Rev.00

SECTION 7: HANDLING AND STORAGE

Handling

Advice on Safe Handling:

Conforming instructions printed on the signal.
Protect from exposure to impacts, friction, heat, fire, sparks,
electrostatic charges and other ignition sources.
Avoid dropping the signal on hard surfaces.
Do not use damaged product.

Conditions for safe storage, including any incompatibilities

Storage:

Temperature should not exceed 65°C

Specific end use(s):

Marine distress signal

Storage

Requirements of Storage Facility
and Container:

Store in a cool and dry place.
Store only in the original packaging and according to the local
regulations regarding the storage of explosive materials.

SECTION 8: PERSONAL PROTECTION/EXPOSURE CONTROLS

Control parameters:

None set

Exposure controls

Recommended engineering controls:

No fire, sparks or welding close to the items. If cleaning up spillage, use tools
which cannot strike sparks.

Personal protective equipment:

Normally not needed. But in case of spillage:

Respiratory protection:

In case of dust use particle filter mask such as EN143 Type P or
EN149 Type FFP-S

Hand protection:

Leather or similar protective gloves

Eye protection:

Shatter proof glasses or goggles

Skin protection:

Normal industrial hygiene

Specific hygiene measures:

No smoking

Further information:

Always check applicability with your supplier of protective equipment

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Silver metal tube with yellow handle and red cap

Odor:

None

Odor threshold value:

Not applicable

pH (concentrated product):

Not applicable

Melting point (°C):

Not determined

Boiling point/ range (°C):

Not applicable

Flash point (°C):

Not applicable

Evaporation rate:

Not applicable

Flammability:

Contents are flammable

Explosive properties:

Intrinsically explosive

Vapor pressure (mbar at 25°C):

Not applicable

Vapor density:

Not applicable

Density at 20°C (g/cm³):

Not determined

Solubility in water (% by weight):

Insoluble

Solubility in solvents:

Not determined

Partition coefficient (log Pow):

Not applicable

Autoignition temperature (°C):

> 250

Decomposition temperature (°C):

Not determined

Viscosity:

Not applicable

Oxidizing properties:

Contents have oxidizing properties

Other information

Note: These are typical values and do not constitute a specification

SAFETY DATA SHEET

Based on Regulation (EC) No. 1907/2006 as amended



SDS PyroPol Handflare Red CF4

Issued: December 2018_Rev.00

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Stable product under recommended handling and storage conditions
Chemical stability:	Stable product under recommended handling and storage conditions
Possibility of hazardous reactions:	Stable product under recommended handling and storage conditions
Conditions to avoid:	High temperatures, above 100°C
Incompatible materials:	Not applicable
Hazardous decomposition products:	Product is explosive, evolving large quantities of gases and emitting large quantities of heat radiation if involved in fire

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

No data available on mixture. Data based on individual components shown below

Hazardous ingredients:	Strontium nitrate
Acute toxicity:	Strontium nitrate: LD ₅₀ oral rat 1892 mg/kg, harmful by ingestion Calculated product ATE ingestion = 3440 mg/kg, not classified as hazardous by ingestion
Skin corrosion / irritation:	No classifiable effects known
Serious eye damage / irritation:	Strontium nitrate: Eye irritant category 2 under CLP
Respiratory or skin sensitisation:	No ingredients classified as sensitisers
Germ cell mutagenicity:	No deleterious effects known
Carcinogenicity:	No deleterious effects known
Reproductive toxicity:	No deleterious effects known
STOT-single exposure:	No deleterious effects known
STOT-repeated exposure:	No deleterious effects known
Aspiration hazard:	No deleterious effects known

Likely routes of exposure: Contact with skin

Symptoms related to the physical, chemical and toxicological characteristics: Powders may be mildly irritating to the skin, eyes and respiratory tract. May cause gastric irritation, nausea and vomiting.

Delayed and immediate effects as well as chronic effects from short and long-term exposure: No deleterious effects known

Other information: None

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:	No toxic ingredients contained in the mixtures
Persistence and degradability:	Not applicable. Contains inorganic materials and is in form of solid article.
Bioaccumulative potential	
Mobility:	No test data on product
Mobility in soil:	None. Product in form of solid article.
Results of PBT and vPvB assessment:	Does not fulfill the criteria for classification as PBT or vPvB
Other adverse effects:	Not a marine pollutant (IMDG code)

SECTION 13: DISPOSAL

Waste treatment methods

Disposal of waste materials: Disposal should be carried out in accordance with local health and safety, waste, environmental and storage / manufacture of explosives regulations.
DO NOT TRY TO DISMANTLE THE PRODUCT!

SAFETY DATA SHEET

Based on Regulation (EC) No. 1907/2006 as amended

SDS PyroPol Handflare Red CF4

Issued: December 2018_Rev.00



SECTION 14: TRANSPORT INFORMATION

Land transport (ADR/RID, GGVSEB)

UN No.: 0373
Proper Shipping Name: SIGNAL DEVICES, HAND
Transport Class / Label: 1.4S
Packing Instruction: P135

Sea Transport (IMO-IMDG Code, GGVSee)

UN No.: 0373
Proper Shipping Name: SIGNAL DEVICES, HAND
Transport Class / Label: 1.4S
Packing Instruction: P135
EMS Code: F - B, S - X
Comment: Not classified as Marine Pollutants

Air Transport (ICAO/IATA DGR)

UN No.: 0373
Proper Shipping Name: Signal devices, hand
Transport Class / Label: 1.4S
Packing Instruction: P135
Additional information: Passenger and Cargo Aircraft

EX Number (DOT/USA): N/A



Explosive substances and
explosive articles
Subclass 1.4

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations /

legislation specific for the substance or mixture: None specified

Chemical safety assessment:

A chemical safety assessment has not been
carried out on this mixture

Other Regulations:

Work Protection Law, Health Protection Law,
Explosives Regulations and Explosive Law must be
conformed to. The item is not subject to safety evaluations.

SECTION 16: OTHER INFORMATION

R-phrases used in this document

R2	Risk of explosion by shock, friction, fire, or other sources of ignition
R8	Contact with combustible material may cause fire
R22	Harmful if swallowed
R36	Irritating to eyes

H-statements used in this document

H204	Fire or projection hazard
H272	May intensify fire, oxidizer
H302	Harmful if swallowed
H319	Causes serious eye irritation

Abbreviations and Acronyms:

GHS	Globally Harmonized System of Classification and Labelling of Chemicals
CAS-No.	Registration Number of the <u>Chemical Abstract Service</u>
EG-No.	Registration Number of the <u>European Inventory of Existing Chemical Substances</u> (EINECS)
EG-Index-No.	ID Code for a particular dangerous material
AGW-value	Work Place Safety/Limit Value
BGW-value	Biological Work Place Safety/Limit Value

SAFETY DATA SHEET

Based on Regulation (EC) No. 1907/2006 as amended



SDS PyroPol Handflare Red CF4
Issued: December 2018_Rev.00

The information in the safety data sheet is based on our present knowledge. It is intended to describe our products with regard to safety requirements and is not intended to guarantee any particular properties.

This is a voluntary product information.

There is no legal obligation to issue a safety data sheet according to Regulation (EC) No 1907/2006 as amended.

SAFETY DATA SHEET

Based on Regulation (EC) No. 1907/2006 as amended



SDS PyroPol Signal Orange Smoke CF3 and variants see Section 1

Issued: October 2015_Rev.02

SECTION 1: PRODUCT AND COMPANY INFORMATION

Product Name:

PyroPol Signal Orange Smoke CF3, Art.-No. 1294200

PYROTECH NEREUS ORANGE SMOKE, Art.-No. 1294210

PANZERA ORANGE SMOKE PM5, Art.-No. N235

CIL/ORION FLOATING ORANGE SMOKE SIGNAL 3 MINUTES, Art.-No. 52251, N235CAN

Area of Usage:

Marine distress signal

Manufacturer:

Company name: PyroPol GmbH

Company address: Lippenhorstweg 29, 21514 Hornbek, Germany

E-Mail / Internet: info@pyropol.de / www.pyropol.de

Telephone No.: +49 – (0) 4158 – 89 00 73

Telefax No.: +49 – (0) 4158 – 89 00 97

24 h Emergency Contact No.: +49 – (0) 171 – 126 15 95

SECTION 2: HAZARDS IDENTIFICATION

Main health hazard:

Hazards refer to contents of signal

Inhalation:

Irritating to respiratory system

Skin contact:

Irritating to skin. May cause sensitisation by skin contact.

Contact with exhaust gases or hot casing can cause burns.

Eye contact:

Irritating to eyes

Ingestion:

May give rise to upset stomach, sickness, vomiting

Fire and explosion hazards:

Risk of ignition by shock, fire, friction, or other sources of ignition

Environmental hazards

Toxic to aquatic organism. May cause long-term adverse effects in the aquatic environment.

CLP Classification		DPD Classification
Explosive division 1.4	– H204	Explosive – R2
Skin irritant category 2	– H315	Harmful – R20/22/36/37/38/43
Skin sensitiser category 1	– H317	Hazardous for Environment – R51/53
Eye irritant category 2	– H319	
Acute toxic category 4	– H332	
STOT SE category 3	– H335	
Aqueous chronic category 2	– H411	

For full wording of hazard statements see Section 16

Label:

Danger Symbol:



Key Word:

Warning

WARNING: Contains Potassium chlorate and Solvent Orange 86

Danger Advice Documents:

H204 Fire or projection hazard
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H332 Harmful if inhaled
H335 May cause respiratory irritation
H411 Toxic to aquatic life with long lasting effects

P102 Keep out of reach of children
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P280 Wearing of protective gloves, clothes, glasses and face mask
P309 + P311 If exposed or you feel unwell: call a POISON CENTER or a doctor/ physician

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P374 Fire fighting under normal precautions from a reasonable distance
P501 Dispose of contents / container to authorized waste disposal facility

Other hazards: May be mildly irritating to skin and respiratory system.
Contact with exhaust smoke, hot gases or hot casing can cause severe burns.

SECTION 3: COMPONENT INFORMATION

Hazardous component(s):

Under CLP EC1272/2008

Substance	CAS No	REACH registration No	%	Mass (g)	CLP Hazard Category and H statements
Potassium chlorate	3811-04-9	01-2119971261-41	30%	60	Oxidizing solid Cat. 1 – H271 Acute toxic Cat. 4 – H302/332 Aquatic chronic Cat. 2 – H411
Solvent Orange 86	81-64-1	01-2119494917-18	35%	70	Skin irritant Cat. 2 – H315 Skin sensitiser Cat. 1 – H317 Eye irritant Cat. 2 – H319 STOT SE Cat. 3 – H335

Under DPD EC1999/45

Substance	CAS number	EC number	%	Mass (g)	Symbol and Risk phrases
Potassium chlorate	3811-04-9	223-289-7	30%	60	O, Xn, N: R9/20/22/51/53
Solvent Orange 86	81-64-1	201-368-7	35%	70	Xi: R36/37/38/43

SECTION 4: FIRST AID MEASURES

General Advice:	Not defined
After Inhalation (Combustion Gases):	Having problems after inhaling smoke, consult a physician.
After Skin Contact:	Wash with lots of water
After Contact with Eyes:	Wash with lots of water, contact a physician
After Swallowing:	Not possible to swallow product
Advice for doctors	
Symptoms:	Not defined
Dangers:	Not defined
Actions to be taken:	Not defined

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing media
Suitable extinguishing media: Use any extinguishing media at early stages of fire.
Once the product has ignited, it cannot be extinguished.

Not to be used: No restriction

Special hazards arising from the substance or mixture: Product emits dense orange smoke that can be ignited in a confined space

Advice for fire fighters: The usual protective gear in case of fire

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions: Normal industrial hygiene. Use protective gloves.

Environmental Precautions: Do not let waste reach drains, sewers and bodies of water, or leak into ground

Methods and material for Collect using non sparking tools. reuse if undamaged.

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Reference to other sections: See Sections 8 and 13

SECTION 7: HANDLING AND STORAGE

Handling

Advice on Safe Handling: Conforming instructions printed on the signal.
Protect from exposure to impacts, friction, heat, fire, sparks, electrostatic charges and other ignition sources.
Avoid dropping the signal on hard surfaces.
Do not use damaged product.

Conditions for safe storage, including any incompatibilities

Storage: Temperature should not exceed 75°C

Specific end use(s): Marine distress signal

Storage

Requirements of Storage Facility and Container: Store in a cool and dry place.
Store only in the original packaging and according to the local regulations regarding the storage of explosive materials.

SECTION 8: PERSONAL PROTECTION/EXPOSURE CONTROLS

Control parameters: None set

Exposure controls

Recommended engineering controls: No fire, sparks or welding close to the items. If cleaning up spillage, use tools which cannot strike sparks.
Personal protective equipment: Normally not needed. But in case of spillage:
Respiratory protection: In case of dust use particle filter mask such as EN143 Type P or EN149 Type FFP-S
Hand protection: Leather or similar protective gloves
Eye protection: Shatter proof glasses or goggles
Skin protection: Normal industrial hygiene
Specific hygiene measures: No smoking
Further information: Always check applicability with your supplier of protective equipment

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance: Colored metal body with red cap
Odor: None
Odor threshold value: Not applicable
pH (concentrated product): Not applicable
Melting point (°C): Not determined
Boiling point/ range (°C): Not applicable
Flash point (°C): Not applicable
Evaporation rate: Not applicable
Flammability: Contents are flammable
Explosive properties: Pyrotechnic smoke generator
Vapor pressure (mbar at 25°C): Not applicable
Vapor density: Not applicable
Density at 20°C (g/cm³): Not determined
Solubility in water (% by weight): Insoluble
Solubility in solvents: Not determined
Partition coefficient (log Pow): Not applicable
Autoignition temperature (°C): > 190
Decomposition temperature (°C): Not determined
Viscosity: Not applicable
Oxidizing properties: Contents have oxidizing properties

Other information

Note: These are typical values and do not constitute a specification

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SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Stable product under recommended handling and storage conditions
Chemical stability:	Stable product under recommended handling and storage conditions
Possibility of hazardous reactions:	Stable product under recommended handling and storage conditions
Conditions to avoid:	High temperatures, above 100°C
Incompatible materials:	Not applicable
Hazardous decomposition products:	Product will emit dense orange smoke and become hot

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

No data available on mixture. Data based on individual components shown below

Hazardous ingredients:	Potassium chlorate and Solvent Orange 86
Acute toxicity:	Potassium chlorate: LD ₅₀ oral rat 1870 mg/kg, harmful by ingestion Calculated product ATE ingestion = 17474 mg/kg, not classified as hazardous by ingestion Potassium chlorate: ATE inhalation 1.5 mg/l Calculated product ATE inhalation = 3.9 mg/l, harmful by inhalation
Skin corrosion / irritation:	Solvent Orange 86: Skin irritant category 2 under CLP
Serious eye damage / irritation:	Solvent Orange 86: Eye irritant category 2 under CLP
Respiratory or skin sensitisation:	Solvent Orange 86: Skin sensitizer category 1 under CLP
Germ cell mutagenicity:	No deleterious effects known
Carcinogenicity:	No deleterious effects known
Reproductive toxicity:	No deleterious effects known
STOT-single exposure:	Solvent Orange 86: Respiratory irritant category 3 under CLP
STOT-repeated exposure:	No deleterious effects known
Aspiration hazard:	No deleterious effects known
Likely routes of exposure:	Contact with skin
Symptoms related to the physical, chemical and toxicological characteristics:	Powders may be mildly irritating to the skin, eyes and respiratory tract. May cause sensitisation by skin contact. May cause gastric irritation, nausea and vomiting.
Delayed and immediate effects as well as chronic effects from short and long-term exposure:	No deleterious effects known
Other information:	None

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Potassium chlorate: EC₅₀ Daphnia magna 24h: 1.093 mg/l Toxic

Persistence and degradability: Not applicable. Contains inorganic materials and is in form of solid article.

Bioaccumulative potential

Mobility: No test data on product

Mobility in soil: None. Product in form of solid article.

Results of PBT and vPvB assessment: Does not fulfill the criteria for classification as PBT or vPvB

Other adverse effects: Not a marine pollutant (IMDG code)

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SECTION 13: DISPOSAL

Waste treatment methods

Disposal of waste materials:

Disposal should be carried out in accordance with local health and safety, waste, environmental and storage / manufacture of explosives regulations.
DO NOT TRY TO DISMANTLE THE PRODUCT!

SECTION 14: TRANSPORT INFORMATION

Land transport (ADR/RID, GGVSEB)

UN No.: 0507
Proper Shipping Name: SIGNALS, SMOKE
Transport Class / Label: 1.4S
Packing Instruction: P135

Sea Transport (IMO-IMDG Code, GGVSee)

UN No.: 0507
Proper Shipping Name: SIGNALS, SMOKE
Transport Class / Label: 1.4S
Packing Instruction: P135
EMS Code: F - B, S - X
Comment: Not classified as Marine Pollutants

Air Transport (ICAO/IATA DGR)

UN No.: 0507
Proper Shipping Name: Signals, smoke
Transport Class / Label: 1.4S
Packing Instruction: P135
Additional information: Passenger and Cargo Aircraft

EX Number (DOT/USA): EX2008070055



Explosive substances and
explosive articles
Subclass 1.4

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture: None specified

Chemical safety assessment: A chemical safety assessment has not been carried out on this mixture

Other Regulations: Work Protection Law, Health Protection Law, Explosives Regulations and Explosive Law must be conformed to. The item is not subject to safety evaluations.

SECTION 16: OTHER INFORMATION

R-phrases used in this document

R2	Risk of explosion by shock, friction, fire, or other sources of ignition
R9	Explosive if mixed with combustible material
R20/22	Harmful by inhalation and if swallowed
R36/37/38	Irritating to eyes / respiratory system and skin
R43	May cause sensitisation by skin contact
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

H-statements used in this document

H204	Fire or projection hazard
H271	May cause fire or explosion, strong oxidizer
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled

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H335	May cause respiratory irritation
H411	Toxic to aquatic life with long lasting effects

Abbreviations and Acronyms:

GHS	Globally Harmonized System of Classification and Labelling of Chemicals
CAS-No.	Registration Number of the <u>Chemical Abstract Service</u>
EG-No.	Registration Number of the <u>European Inventory of Existing Chemical Substances</u> (EINECS)
EG-Index-No.	ID Code for a particular dangerous material
AGW-value	Work Place Safety/Limit Value
BGW-value	Biological Work Place Safety/Limit Value
CMR-Substance	Carcinogen, Mutagen, Fertility Damaging

The information in the safety data sheet is based on our present knowledge. It is intended to describe our products with regard to safety requirements and is not intended to guarantee any particular properties.

This is a voluntary product information.

There is no legal obligation to issue a safety data sheet according to Regulation (EC) No 1907/2006 as amended.